IN THE ABSTRACT:

Please DELETE the Abstract in its entirety and substitute the attached new Abstract.

A method of generating parity data based on a low-density parity check matrix and an apparatus therefor, the method including: reordering columns of the parity check matrix based on elements in each column having values of one to generate a reordered parity check matrix; determining a cross-point between a diagonal line of a parity matrix part in the parity check matrix and a reordered diagonal line defined by a first entry of an element having a value of one in each column of the reordered parity check matrix; and performing column permutations on the reordered parity check matrix on the basis of positions of elements having a value of one in rows above a horizontal line that passes through the cross-point to generate a triangular matrix, thus reducing the computations required to generate parity data, thereby efficiently obtaining the parity data.